FIG. 1

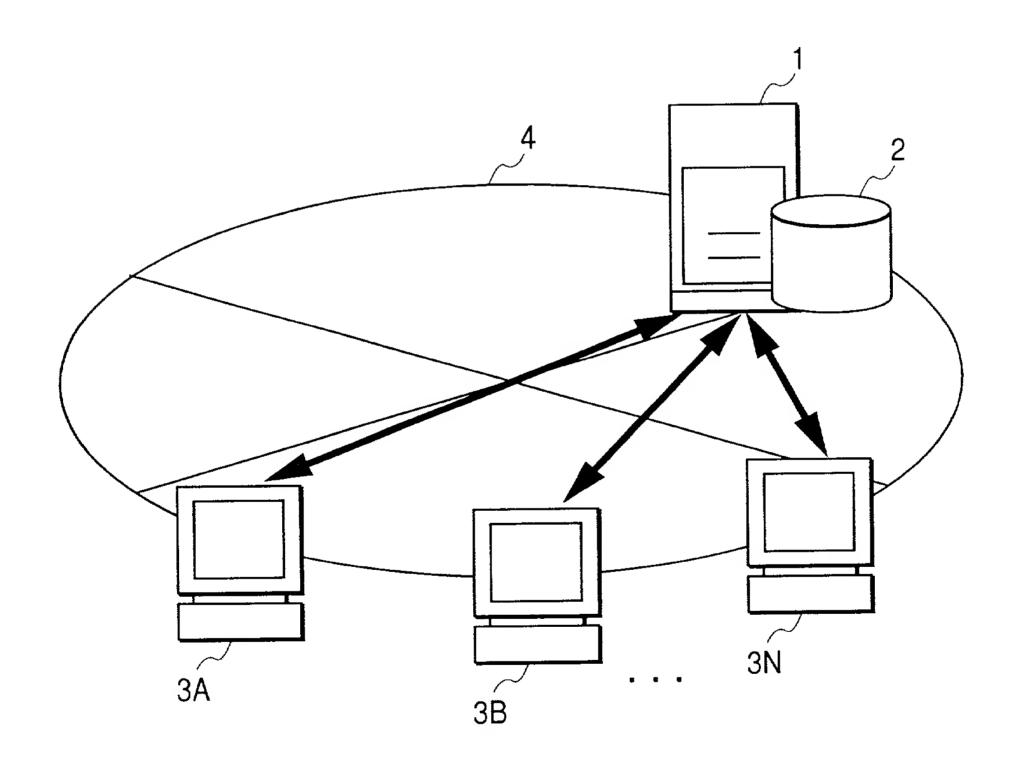


FIG. 2

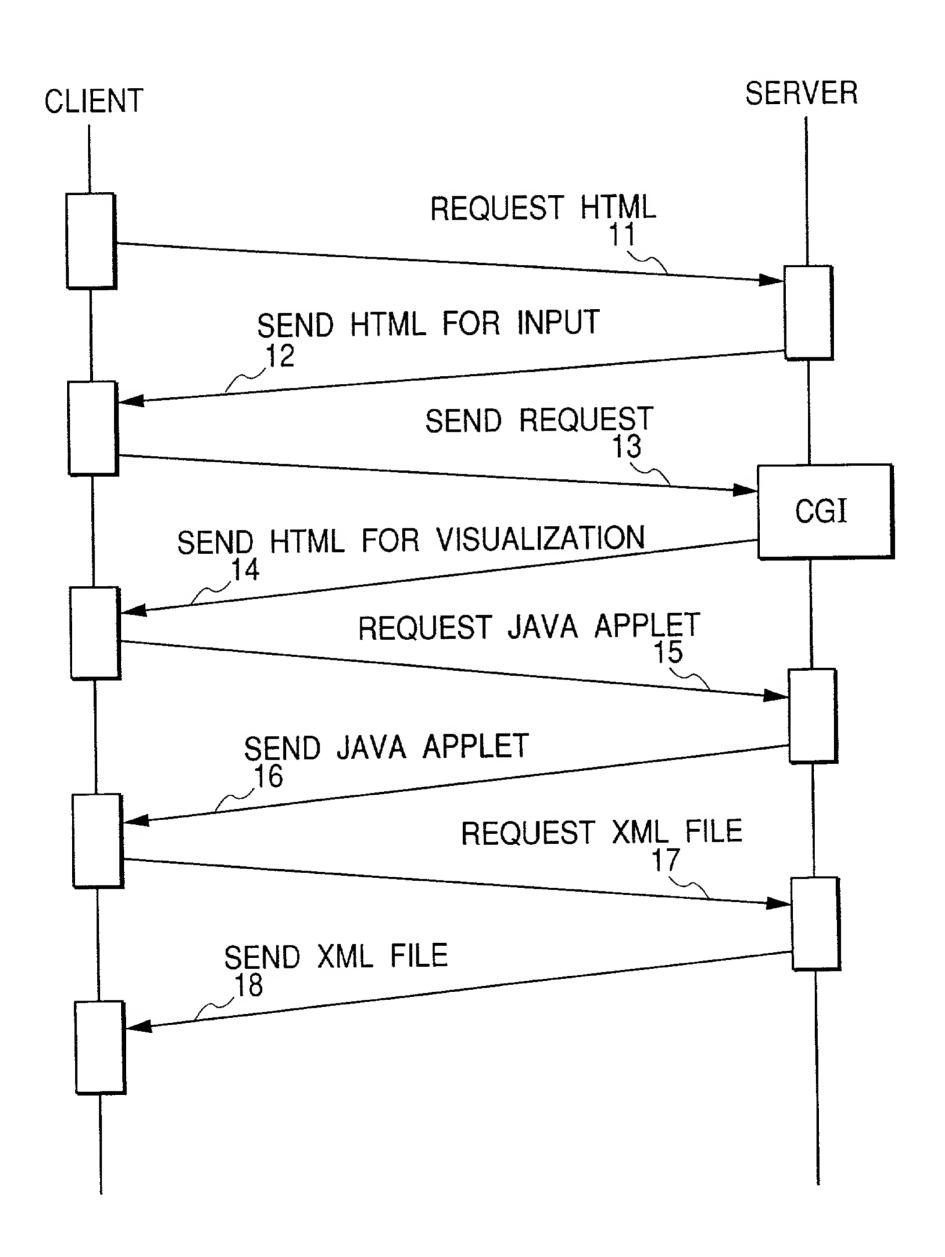
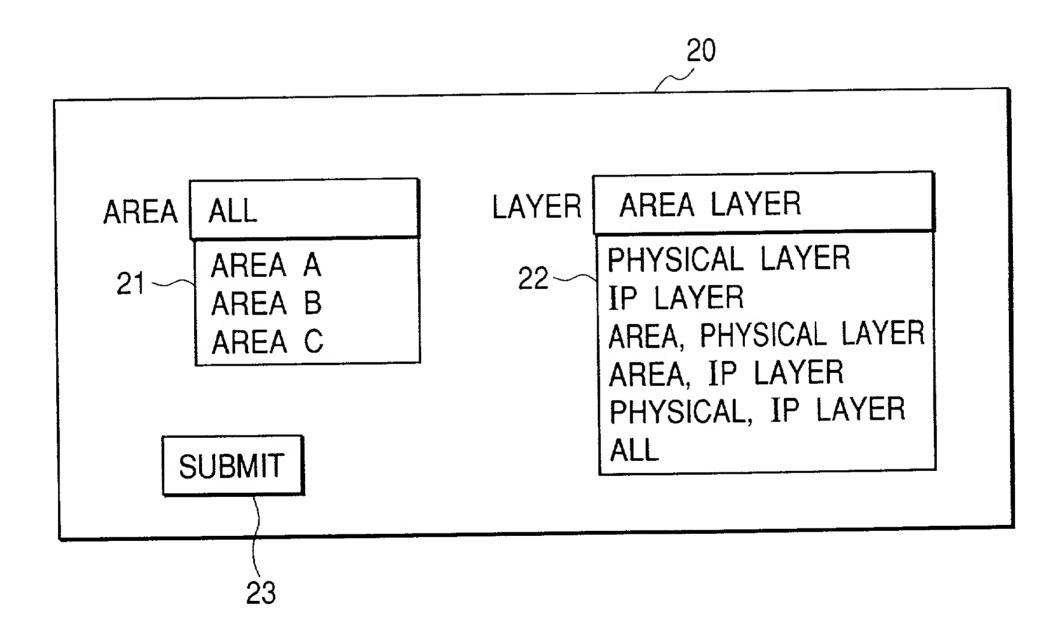


FIG. 3



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FIG. 4

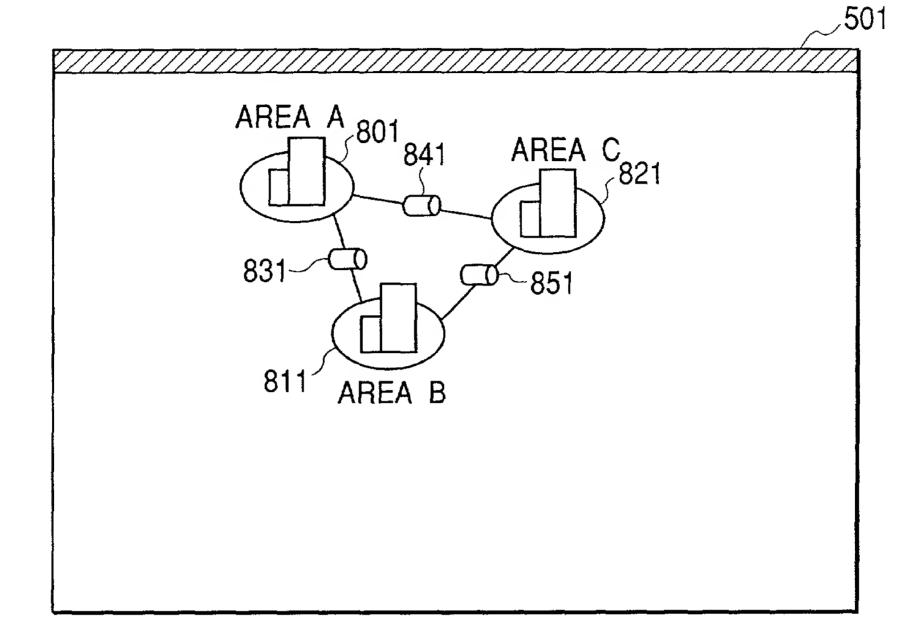


FIG. 5

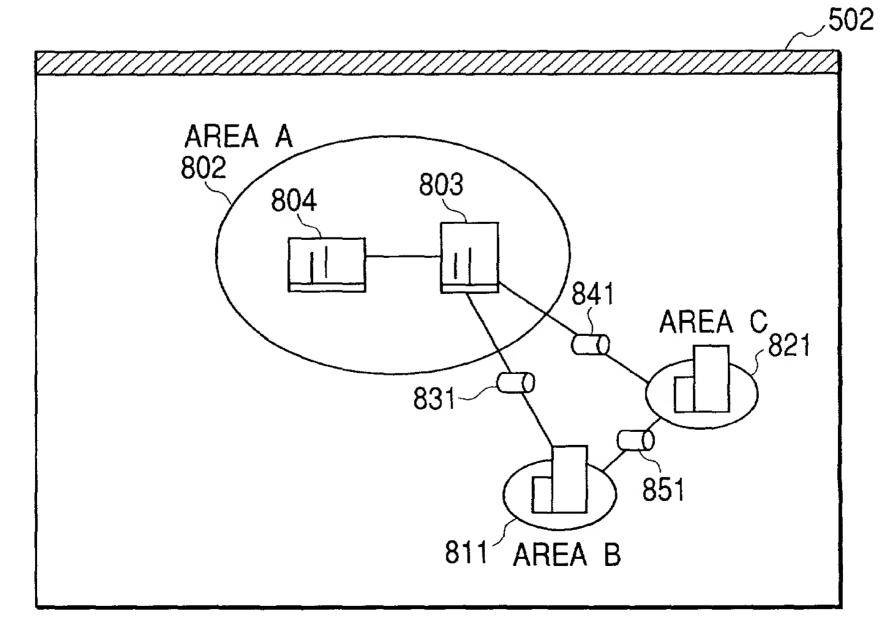


FIG. 6

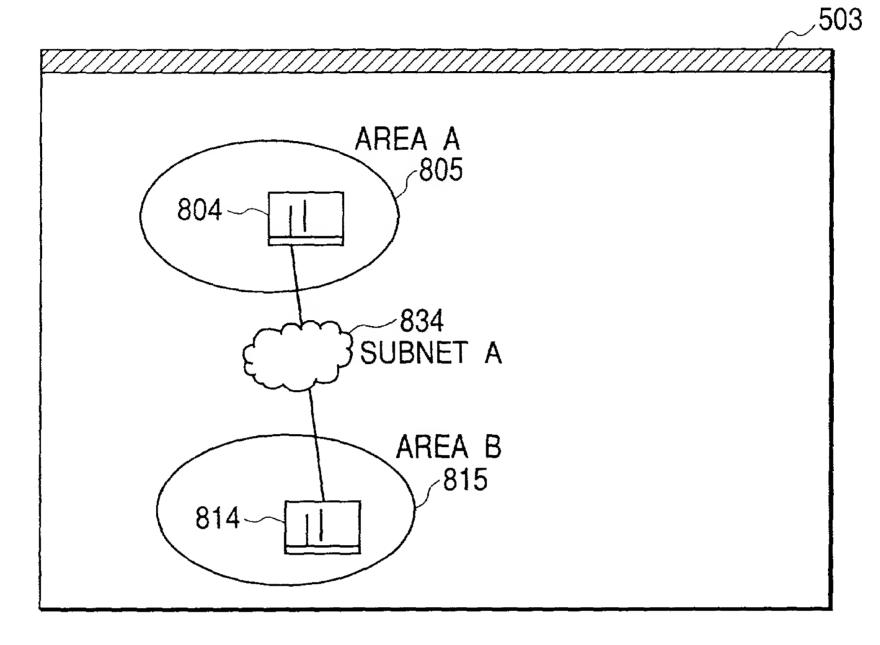


FIG. 7

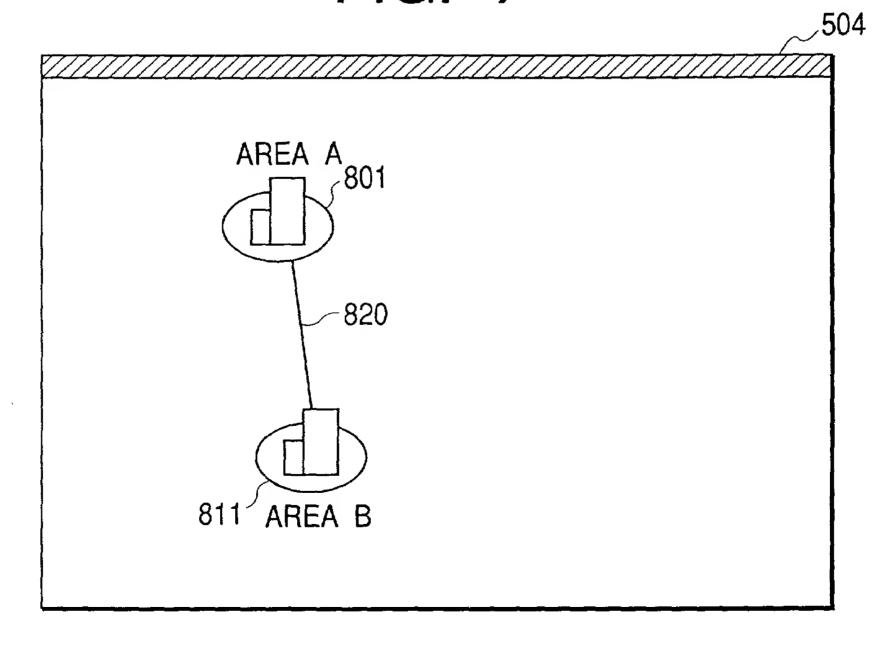
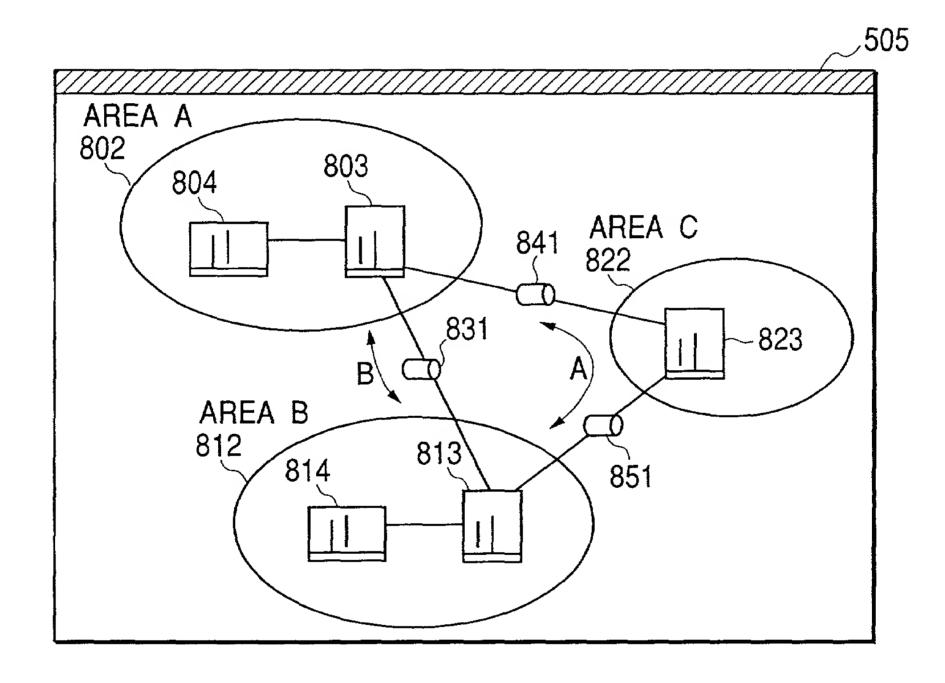


FIG. 8



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FIG. 9

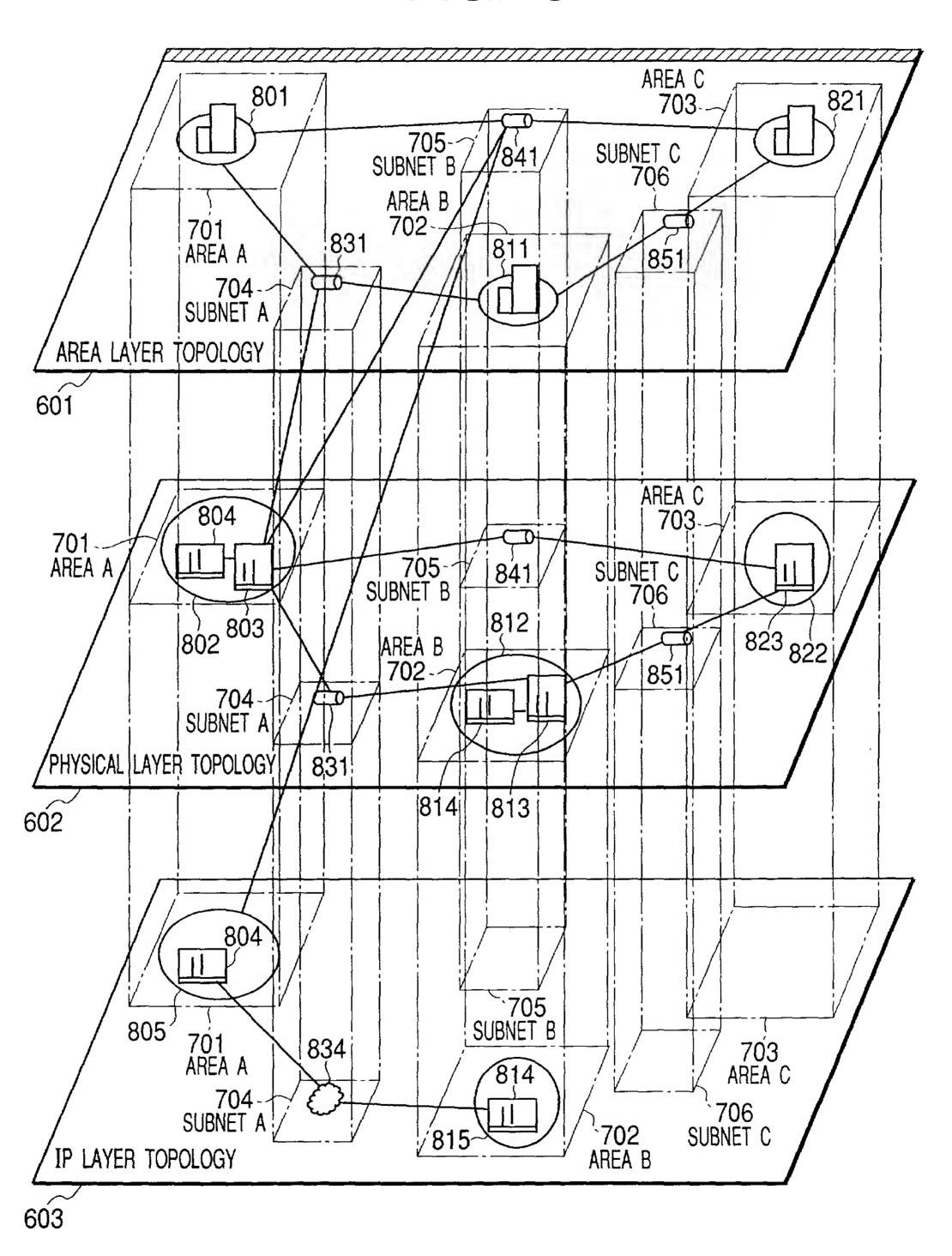


FIG. 10

```
(equip name="router804")
        \langle position x="20" y="50" w="40" h="20"/ \rangle
2
        (icon url="http://foo/router.gif"/)
       </e>
⟨ / equip⟩
       ⟨equip name="atm-sw803"⟩
        \langle position x="30" y="10" w="20" h="30"/ \rangle
        (icon url="http://foo/atm-sw.gif"/)
       //equip>
       ⟨equip name="router814"⟩
         (position x="20" y="50" w="40" h="20"/)
10
         (icon url="http://foo/router.gif"/)
11
       /equip
        ⟨equip name="atm-sw813"⟩
         (position x="30" y="10" w="20" h="30"/)
14
         (icon url="http://foo/atm-sw.gif"/)
15
        //equip>
16
        ⟨equip name="atm-sw823"⟩
17
         \langle position x="30" y="10" w="20" h="30"/ \rangle
18
         (icon url="http://foo/atm-sw.gif"/)
19
        //equip>
20
        (location name="A-relay801")
21
          (position x="5" y="5" w="20" h="20"/)
22
          (icon url="http://foo/relay.gif"/)
 23
        24
          (location name="A-relay802")
 25
          (position x="0" y="0" \dot{w}="100" h="100"/)
 26
          (icon url="http://foo/relay.2.gif"/)
 27
         28
         (location name="A-relay805")
 29
          (position x="0" y="0" w="60" h="50"/)
 30
          (icon url="http://foo/relay.3.gif"/)
 31
         32
```

FIG. 11

```
⟨location name="B-relay811"⟩
33
34
          position x="0" y="0" w="20" h="20"/
35
          (icon url="http://foo/relay.gif"/)
36
        ⟨ ∕ location⟩
37
        (location name="B-relay812")
          \{position x="0" y="0" w="100" h="100"/\}
38
39
          (icon url="http://foo/relay.2.gif"/)
        //location>
40
41
        (location name="B-relay815")
          \langle position x="0" y="0" w="100" h="100"/\rangle
42
43
          (icon url="http://foo/relay.3.gif"/)
44
        //location>
45
        (location name="C-relay821")
46
          \langle position x="0" y="0" w="20" h="20"/ \rangle
47
          (icon url="http://foo/relay.gif"/)
48
        49
        (location name="C-relay822")
50
          \langle position x="0" y="0" w="30" h="30" / \rangle
51
         (icon url="http://foo/relay.4.gif"/)
52
        //location>
53
        (net name="netA831")
54
          \langle position x="0" y="0" w="10" h="10"/ \rangle
55
         (icon type="http://foo/physicalNet.gif"/)
56
        //net>
57
        (net name="netA834")
58
          \langle position x="0" y="0" w="10" h="10"/\rangle
59
          (icon type="http://foo/logicalNet.gif"/)
60
        //net>
61
        (net name="netB841")
62
         \{position x="0" y="0" w="10" h="10"/\}
63
         (icon type="http://foo/physicalNet.gif"/)
64
        //net>
65
        (net name="netC851")
66
          \langle position x="0" y="0" w="10" h="10"/\rangle
67
         (icon type="http://foo/physicalNet.gif"/)
68
        //net>
```

FIG. 12

```
(LOVD name="A-relay-LOVD" x="10" y="10")
         \langle level num="1" w="30" h="30" \rangle
          ⟨obj name="A-relay801"/⟩
         </le>
⟨ / level⟩
         \langle level num = "2" w = "100" h = "100" \rangle
5
          ⟨obj name="A-relay802"/⟩
 6
          ⟨obj name="router804"/⟩
          ⟨obj name="atm-sw803"/⟩
 8
 9
         ⟨ ∕ level⟩
         \langle level num="3" w="60" h="50" \rangle
10
          ⟨obj name="A-relay805"/⟩
11
           ⟨obj name="router804"/⟩
12
         ✓ level
13
       </LOVD>
14
       (LOVD name="B-relay-LOVD" x="20" y="70")
15
         \langle level num="1" w="30" h="30" \rangle
16
           ⟨obj name="B-relay811"/⟩
17
         ✓ level
18
         (level num="2" w="100" h="100")
19
           ⟨obj name="B-relay812"/⟩
20
           ⟨obj name="router814"/⟩
21
           ⟨obj name="atm-sw813"/⟩
22
          </le>✓ level >
23
          \langle level num="3" w="60" h="50" \rangle
24
           ⟨obj name="B-relay815"/⟩
25
           ⟨obj name="router814"/⟩
26
          ⟨ ∕ level⟩
27
        </LOVD>
28
        \langle LOVD name="C-relay-LOVD" x="70" y="20" \rangle
 29
          \langle level num = "1" w = "30" h = "30" \rangle
 30
            ⟨obj name="C-relay821"/⟩
 31
          ✓ level
 32
          \langle level num="2" w="40" h="50" \rangle
 33
            ⟨obj name="C-relay822"/⟩
 34
            ⟨obj name="atm-sw823"/⟩
 35
          ⟨ ∕ level⟩
 36
         </LOVD>
 37
```

```
\langle LOVD \text{ name}=\text{"netA-LOVD" } x=\text{"25" } y=\text{"50"} \rangle
38
          (level num="1" w="10" h="10")
39
           ⟨obj name="netA831"/⟩
40
          </level>
41
          \langle level num = "2" w = "10" h = "10" \rangle
42
           ⟨obj name="netA831"/⟩
43
          </le>
⟨ / level⟩
44
          \langle level num="3" w="10" h="10" \rangle
45
            ⟨obj name="netA834"/⟩
46
          </level>
47
        </LOVD>
48
        (LOVD name="netB-LOVD" x="50" y="30")
49
          \langle level num="1" w="10" h="10" \rangle
50
            ⟨obj name="netB841"/⟩
51
          ⟨ /level⟩
52
          \langle level num = "2" w = "10" h = "10" \rangle
53
            ⟨obj name="netB841"/⟩
54
          </level>
55
        </LOVD>
56
        (LOVD name="netC-LOVD" x="60" y="60")
57
          \langle level num="1" w="10" h="10" \rangle
58
            ⟨obj name="netC851"/⟩
59
           </level>
60
           \langle level num = "2" w = "10" h = "10" \rangle
61
62
            ⟨obj name="netC851"/⟩
63
           </le>
64
         </LOVD>
65
         ⟨init_LOVD num="1"/⟩
```

FIG. 14

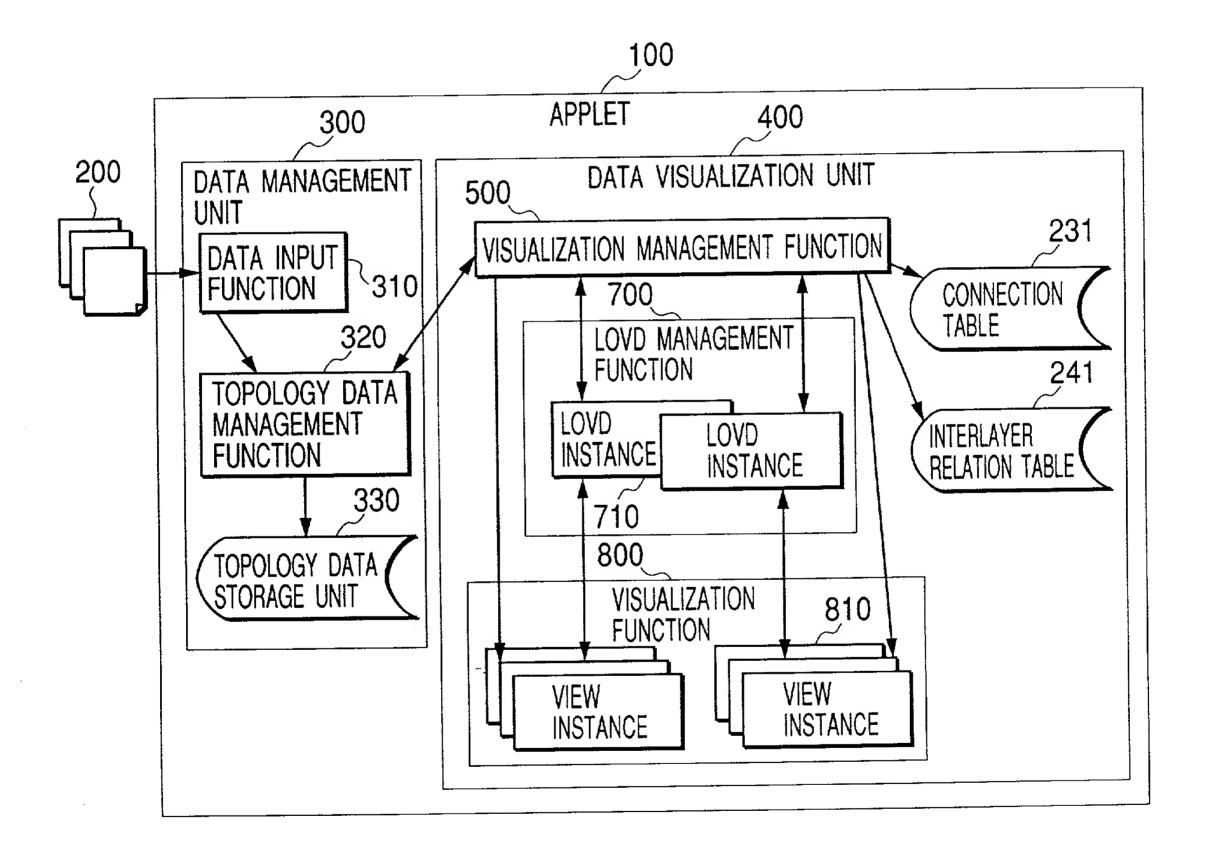
1 2 3 4 5	<pre>⟨connection name="A-relay801"⟩ ⟨obj name="netA831"/⟩ ⟨/connection⟩</pre>
4	(connection_name="A-relay801"/)
5	<pre>⟨obj name="netB841"/⟩</pre>
6	<pre></pre>
7	⟨connection name="B-relay811"/⟩
7 8 9	⟨obi name="netA831"/⟩
9	⟨ ∕ connection ⟩
10	<pre>⟨connection name="B-relay811"⟩ ⟨obj name="netC851"/⟩</pre>
11	⟨obj name="netC851"/⟩
12	⟨∠connection⟩
13	(connection name="C-relay821")
14	<pre>⟨connection name="C-relay821"⟩ ⟨obj name="netB841"/⟩</pre>
15	<pre></pre>
16	<pre>⟨connection name="C-relay821"⟩ ⟨obj name="netC851"/⟩</pre>
17	⟨obj name="netC851"/⟩
18	<pre></pre>

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```
(connection name="atm-sw803")
19
20
       ⟨obj name="netA831"/⟩
⟨/connection⟩
21
22
       (connection name="atm-sw803")
        ⟨obj name="netB841"/⟩
24
       </connection>
       ⟨connection name="atm-sw813"⟩
26
       ⟨obj name="netA831"/⟩
⟨/connection⟩
27
28
       (connection name="atm-sw813")
29
        (obj name="netC851"/)
30
       </connection>
       ⟨connection name="atm-sw823"⟩
31
       ⟨obj name="netB841"/⟩
⟨/connection⟩
32
33
34
       (connection name="atm-sw823")
        (obj name="netC851"/)
35
36
       </connection>
       ⟨connection name="router804"⟩
37
        ⟨obj name="atm-sw803"/⟩
38
39
       ⟨/connection⟩
40
       (connection name="router814")
41
        ⟨obj name="atm-sw813"/⟩
42
       </connection>
43
       (connection name="router804")
44
       ⟨obj name="netA834"/⟩
⟨/connection⟩
45
       ⟨connection name="router814"⟩
46
47
        ⟨obj name="netA834"/⟩
48
       </connection>
        (connection name="A-relay805"/>
49
       ⟨obj name="netB841"/⟩
⟨/connection⟩
50
51
```

FIG. 15

1 (relation name="netA834")
2 (obj name="atm-sw803"/)
3 (obj name="netB841"/)
4 (obj name="atm-sw823"/)
5 (obj name="netC851"/)
6 (obj name="atm-sw813"/)
7 (/relation)



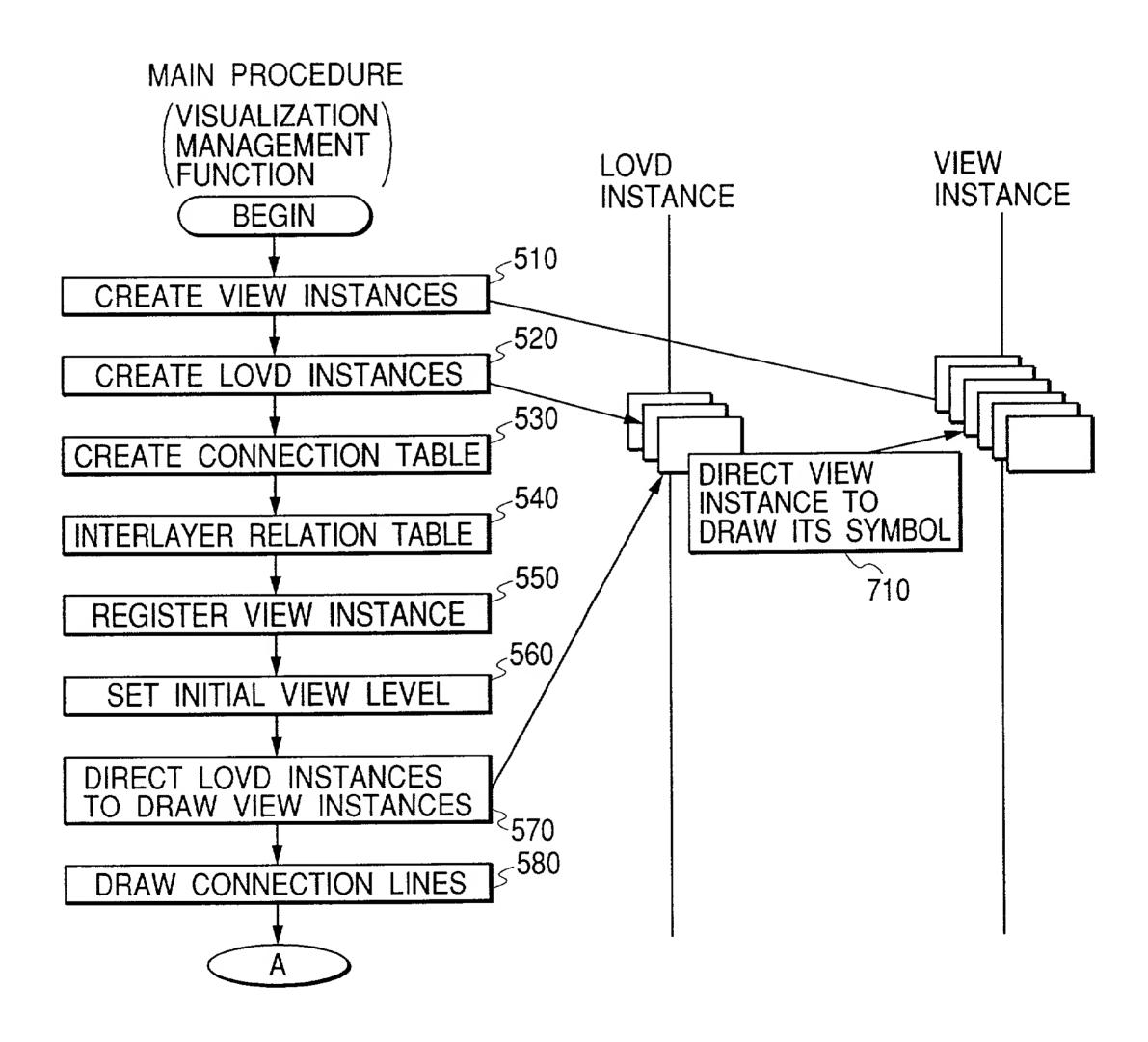


FIG. 18

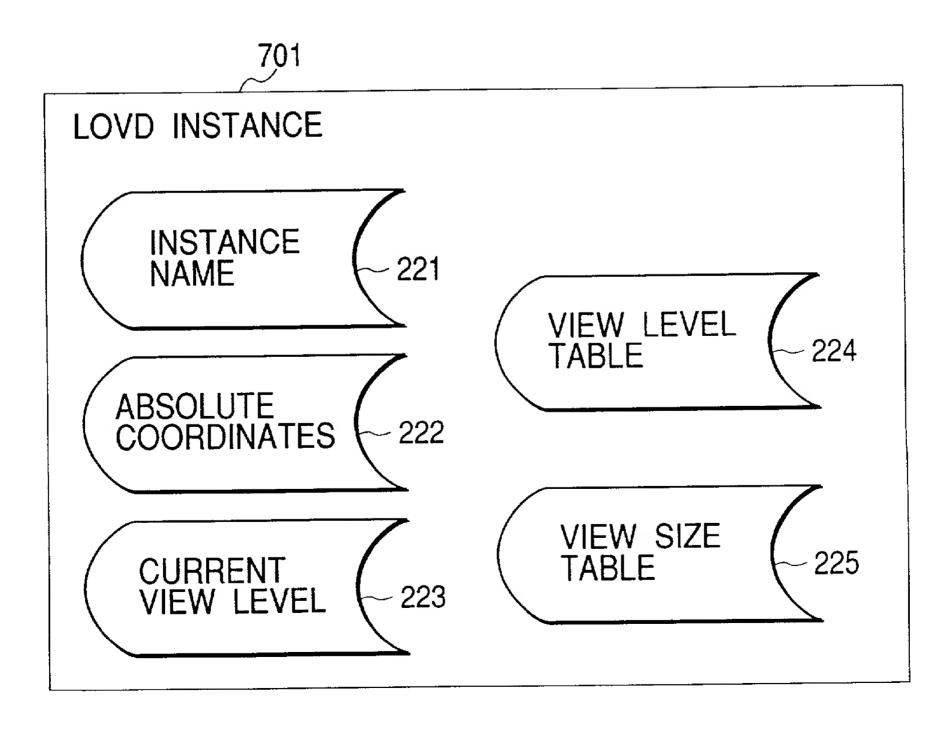
231

VIEW INSTANCE	VIEW INSTANCE	
A-relay801	netA831	
A-relay801	netB841	
B-relay811	netA831	
B-relay811	netC851	
C-relay821	netB841	
C-relay821	netC851	
atm-sw803	netA831	
atm-sw803	netB841	
atm-sw813	netA831	
atm-sw813	netC851	
atm-sw823	netB841	
atm-sw823	netC851	
router804	atm-sw803	
router814	atm-sw813	
A-relay805	netB841	
router804	netA834	
router814	netA834	

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PARENT INSTANCE	CHILD INSTANCE
netA834 netA834 netA834 netA834	atm-sw803 netB841 atm-sw823 netC851 atm-sw813



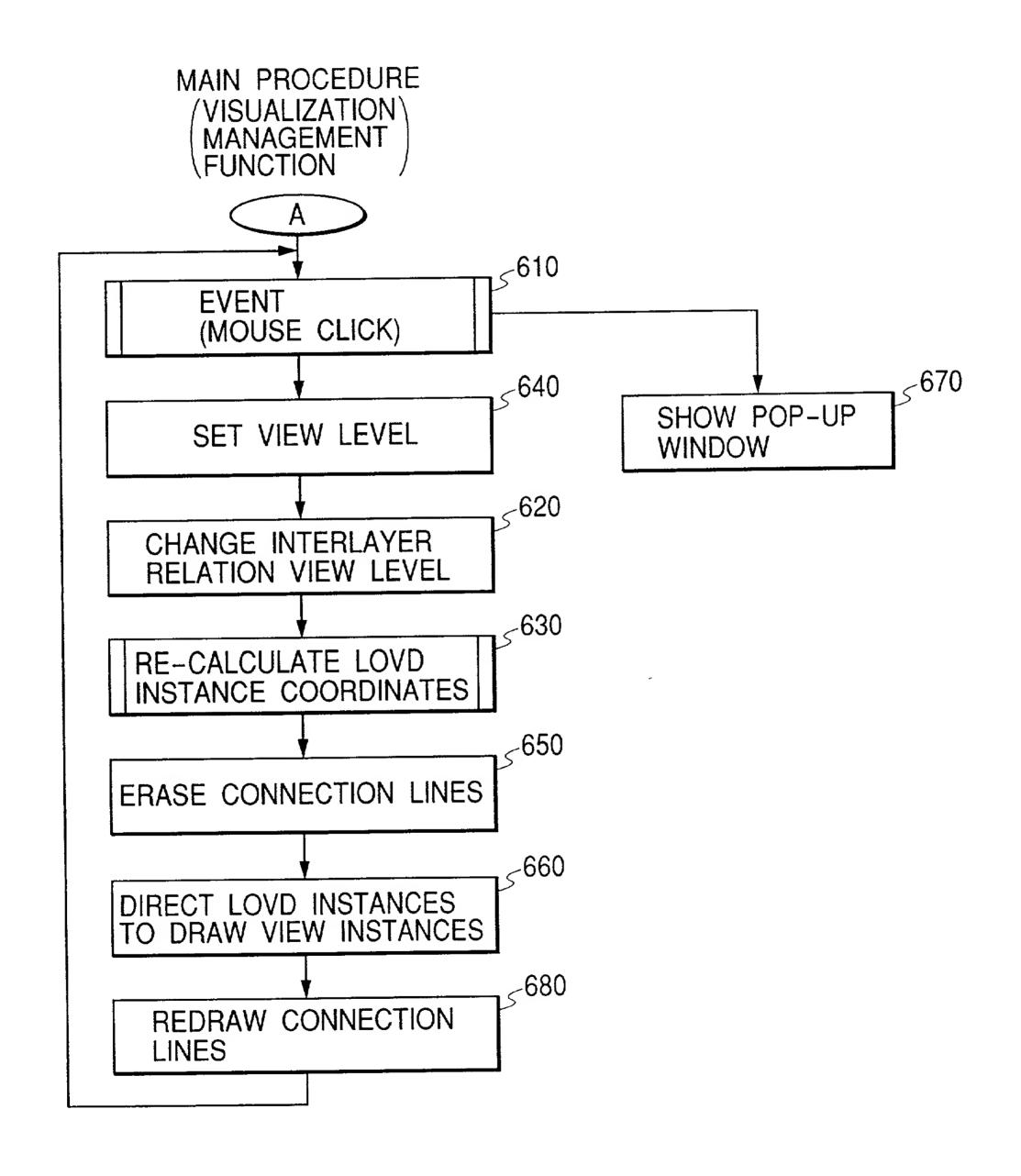
224

VIEW LEVEL	VIEW INSTANCE
1	A-relay801
2	A-relay802
2	router804
2	atm-sw803
3	A-relay805
3	router804

FIG. 22

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VIEW LEVEL	WIDTH	HEIGHT
1	30	30
2	100	100
3	60	50



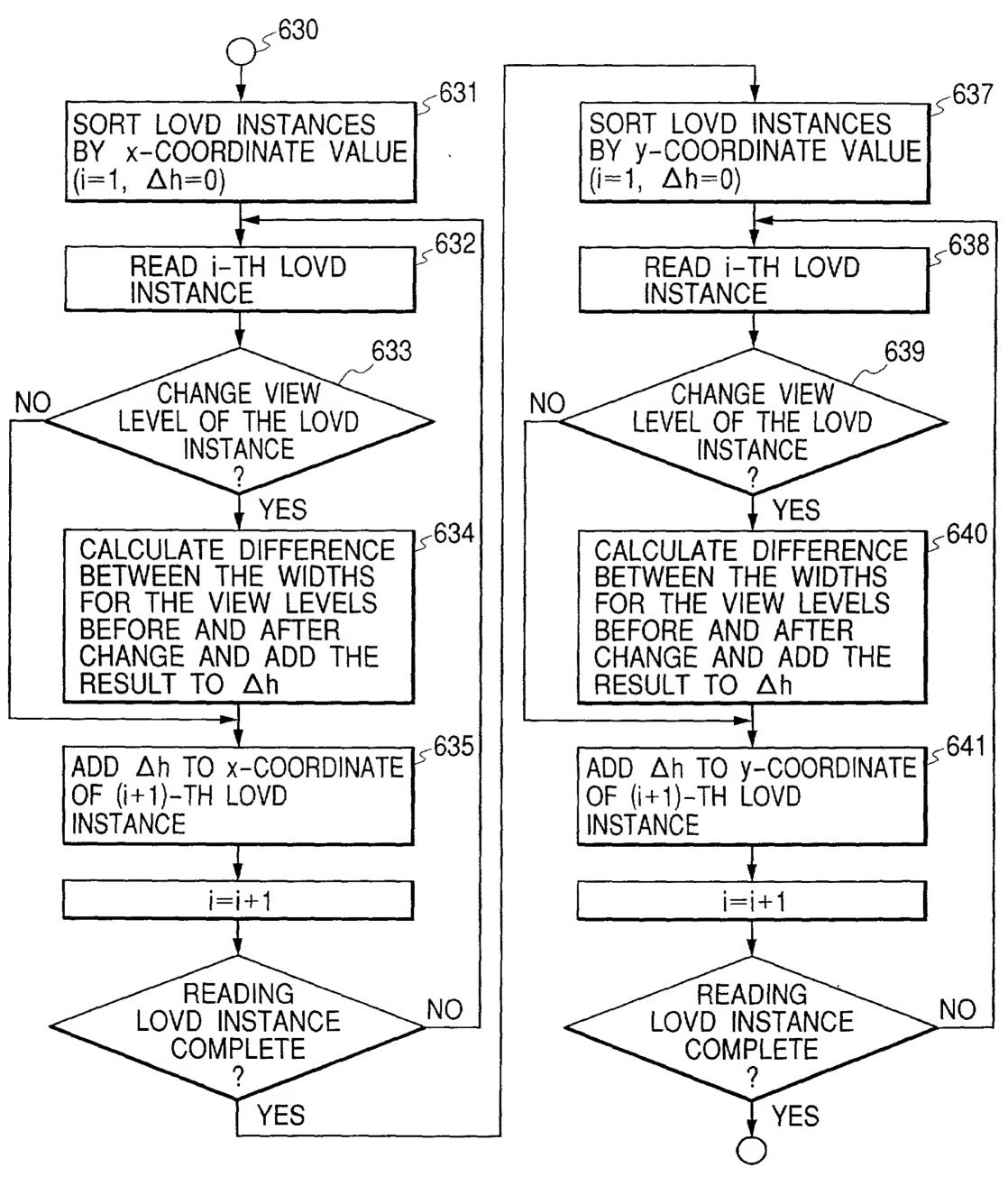
AREA LAYER

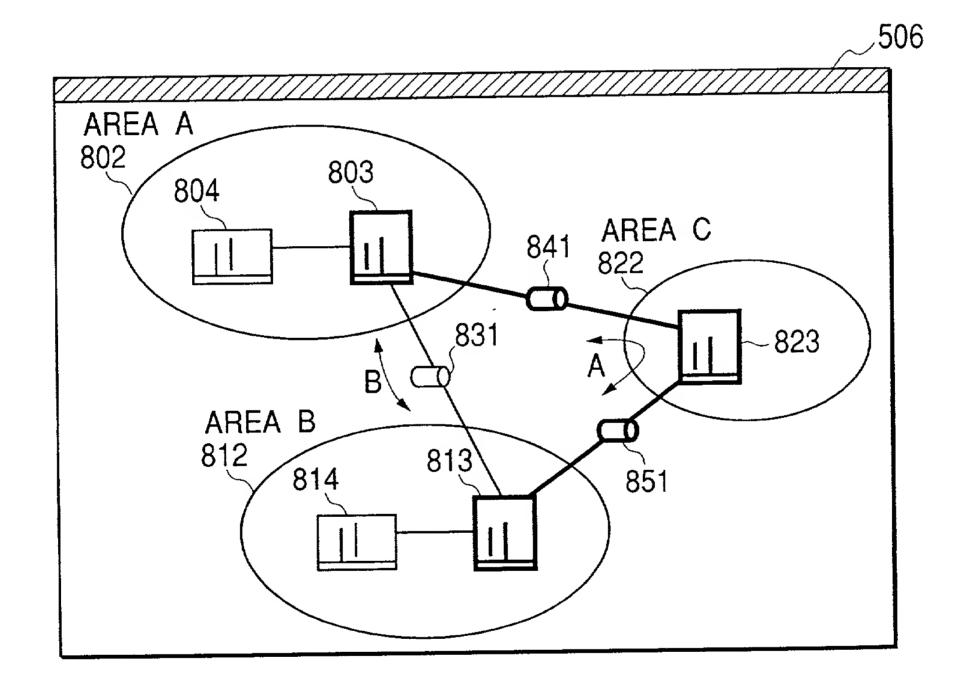
PHYSICAL LAYER

IP LAYER

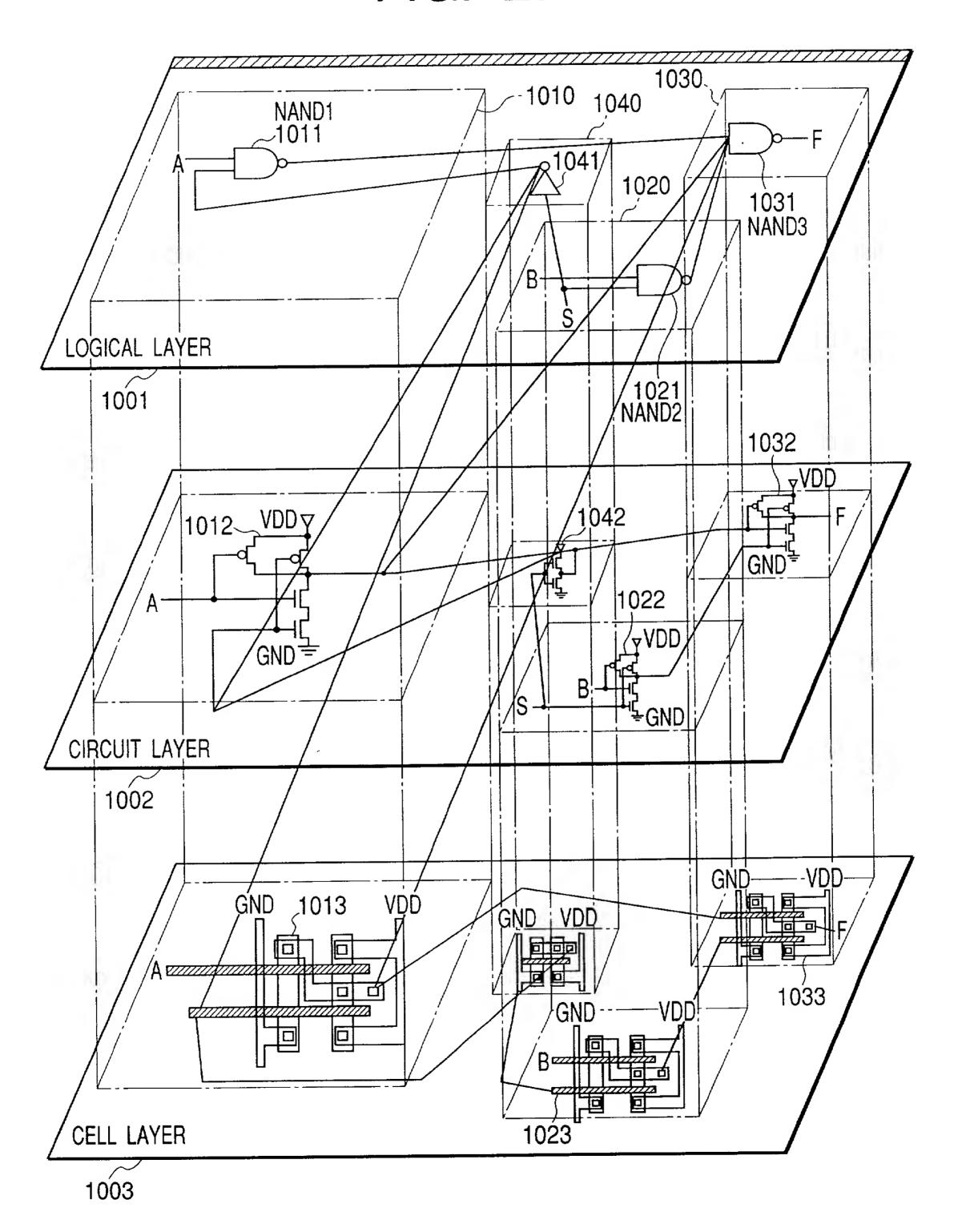
FIG. 25

LOVD INSTANCE COORDINATES RE-CALCULATION

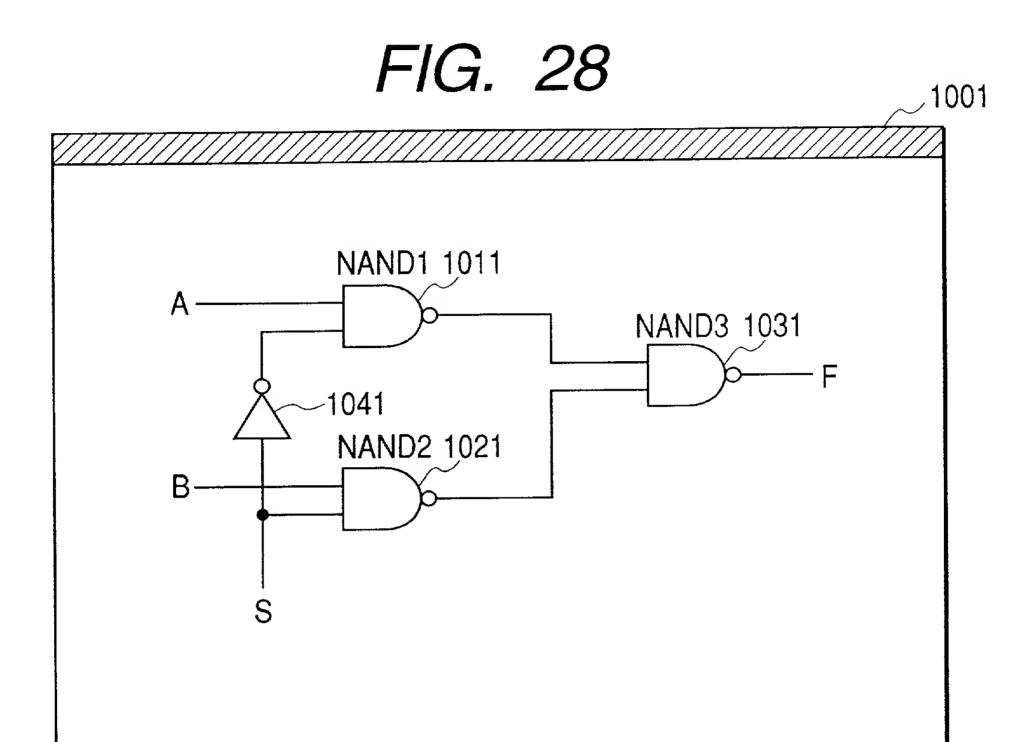




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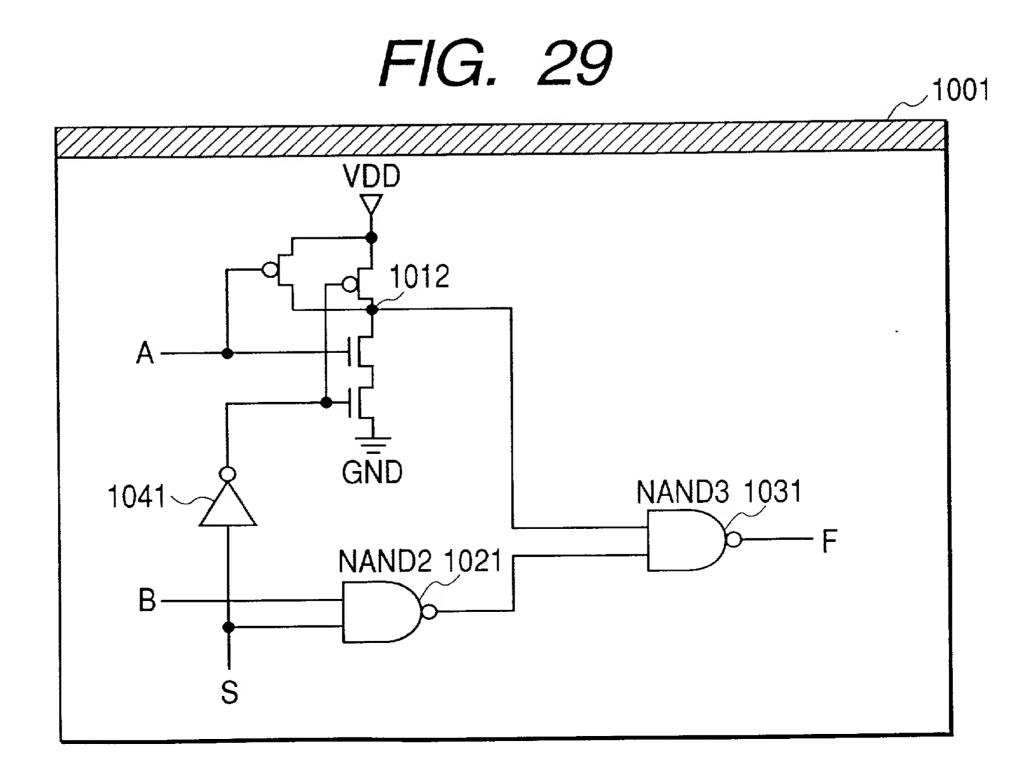


FIG. 30

